

Dr. Geoff Nagy

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Work Experience

Research Engineer (ICT4), Apple, Seattle, United States since November 2021

- Research, develop, and ship new technologies and novel applications, both individually and on a team.
- Implement research tools and apps for iOS, macOS with Swift, Metal, SceneKit, UIKit, SpriteKit, ARKit.
- Successful incubations include a 3-year project for which I was DRI; now being built by a 10-person team.

Prototype Engineer, Archiact VR (defunct), Vancouver, Canada October 2015 to August 2016

- Team lead on robotic rescue research concept; evaluated robotic prototype in real USAR training location.
- Hired team of 5 engineers to successfully build robotic prototype; programmed using C, C++, C# .NET, OpenGL/GLSL; designed PCBs with DipTrace.

Sessional Instructor, University of Manitoba, Winnipeg, Canada January 2013 to April 2015

- Developed and presented own lecture material and assignments, graded exams.
- Topics ranged from introductory to advanced undergraduate CS courses.

Developer/Programmer, Canadian Air Force, Winnipeg, Canada November 2009 to December 2012

- Developed content used in officer training, in HTML, CSS, Javascript, Adobe After Effects.
- Developed custom quiz authoring tools used by teaching staff, in C# .NET.

Education

PhD, Computing Science, Simon Fraser University, Canada August 2021

- Researched and developed novel biologically-inspired drone flocking behaviours.
- Designed and constructed novel low-cost 3D-printed drone fleet (Fusion 360, DipTrace, AVR C/C++, C# .NET) to execute these behaviours in a Vicon-equipped lab space.
- Developed an application (C++, OpenGL, GLSL) to both simulate and control live fleets of drones; performed advanced statistical analysis (Python).

MSc, Computer Science, University of Manitoba, Canada September 2016

- Researched the impact of novel active team management strategies in simulated teams of heterogeneous robots (C++, OpenGL) in USAR environments.

BSc, Computer Science, University of Manitoba, Canada January 2013

Select Publications (of 9)

“Computational and Structural Advantages of Pairwise Flocking”. **Geoff Nagy**, Alex Thornton, Hangjian Ling, Guillam McIvor, Nicholas Ouellette, Richard Vaughan. *Proceedings of the 2nd IEEE International Symposium on Multi-Robot and Multi-Agent Systems*. New Brunswick, United States, 2019.

“Active Team Management Strategies for Multi-Robot Teams in Dangerous Environments”. **Geoff Nagy**, John Anderson. *Proceedings of the 30th Canadian Conference on Artificial Intelligence*. Edmonton, Canada, 2017. (Won CAIAC 2017 Best Student Paper.)

Select Awards (of 12)

NSERC CGS D (\$35,000 per year) May 2018
Third Place Technical Challenge, RoboCup (twice in 2 years) July 2014, July 2013

Select Volunteering (of 7)

Senior Chair, IEEE RAS Student Activities Committee May 2020 to May 2021
Chair, IEEE RAS Student Activities Committee May 2018 to May 2020
Volunteer Organizer, IEEE IROS, Vancouver, Canada September 2017